Solutions Manual

# Chapter 15: Inventory Management

1. The metrics discussed include backorders and lost sales, turnover, days of inventory in stock, inventory accuracy, order fulfillment lead time, and fill rate. A small clothing store is more likely to use the first four of these metrics. The manager could track backorders and lost sales to adjust the reorder point for each item. Turnover would help a manager determine whether order quantities were appropriate and which items sell well or poorly. Days of inventory in stock also provides the manager a measure of whether each item is selling well and how order levels might be adjusted.

Cognitive Domain: Comprehension

Difficulty Level: Medium

2. A multiscreen theater could look at unsold seats as unused inventory for a specific screen or movie. For popular premiere events, the manager can adjust supply by showing one film on multiple screens with closely staggered start times and apply yield management principles to adjust the number of screens used. Another type of inventory is for snacks and beverages, which can double or triple the revenue associated with movie attendance. Movie seats are perishable items; once the movie has begun, it is far less likely the seat will be purchased, so the theater manager must carefully monitor demand.

Cognitive Domain: Comprehension

Difficulty Level: Medium

3. The four types of inventory discussed in the text are raw materials, maintenance operations and repair (MRO), work in process, and finished goods. Examples of businesses will vary; a haberdashery stocks thread, cleaning supplies, partially tailored suits, and suits on the rack.

Cognitive Domain: Comprehension

Difficulty Level: Medium

4. Businesses that have a high cost or consequence of stock-out, large swings in demand, and uncertainty of supply might be more inclined to maintain higher levels of safety stock. These businesses include health care organizations, among others.

Cognitive Domain: Comprehension

Difficulty Level: Medium

5. Wegmans might choose to apply lean production principles to manage their inventory and would certainly employ point-of-sale systems to communicate sales to their suppliers in real time. Wegmans would also explore biodegradable, minimalistic packaging and source produce from local farms when possible. Wegmans might also contract with small-scale farms for free-range chickens for meat and eggs and ensure that other meats are humanely raised and peacefully slaughtered.

Cognitive Domain: Comprehension

Difficulty Level: Medium

6. Examples will vary. In general, A items comprise 80% of sales revenue, B items make up 15%, and the remainder of the items are C items.

Cognitive Domain: Knowledge

Difficulty Level: Easy

7.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Inventory Item* | *Unit Cost ($)* | *Annual Usage* | *Category* | *Inventory Item* | *Unit Cost ($)* | *Annual Usage* | *Category* |
| P21 | 80 | 800 | A | R82 | 20 | 80 | C |
| A12 | 400 | 70 | A | G65 | 80 | 70 | B |
| K43 | 50 | 100 | C | L71 | 220 | 200 | A |
| S54 | 60 | 90 | B | M94 | 70 | 80 | B |
| C25 | 50 | 130 | B | V45 | 15 | 60 | C |
| D76 | 30 | 170 | C | T62 | 30 | 180 | B |
| E27 | 20 | 200 | C | I17 | 20 | 80 | C |
| F38 | 300 | 90 | A | W22 | 300 | 90 | B |
| H19 | 520 | 120 | A | O37 | 700 | 85 | A |
| Q10 | 10 | 100 | C | N88 | 5 | 100 | C |

Cognitive Domain: Analysis

Difficulty Level: Medium

8.

|  |  |  |  |
| --- | --- | --- | --- |
| *Item* | *Category* | *Annual Usage in No. Units* | *Unit Cost ($)* |
| 1 | C | 6,000 | 1.4 |
| 2 | B | 1,500 | 10 |
| 3 | A | 11,000 | 9.5 |
| 4 | B | 6,500 | 2.5 |
| 5 | C | 8,500 | 0.6 |
| 6 | A | 7,000 | 14.5 |
| 7 | C | 6,000 | 0.8 |
| 8 | C | 5,500 | 1.2 |
| 9 | A | 8,000 | 3.5 |
| 10 | B | 4,000 | 2.5 |

Cognitive Domain: Analysis

Difficulty Level: Medium

9.



Cognitive Domain: Knowledge

Difficulty Level: Easy

10.



Cognitive Domain: Knowledge

Difficulty Level: Easy

11.



Cognitive Domain: Knowledge

Difficulty Level: Easy

12.





Cognitive Domain: Knowledge

Difficulty Level: Easy